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BEFORE THE ARIZONA CORPORATION COMMISSION 2015 NOV -6 P 3: 27

#### 2 **COMMISSIONERS**

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SUSAN BITIER SMITH - Chairman **BOB STUMP BOB BURNS DOUG LITTLE** TOM FORESE

AZ CORP COMMISSION DOCKET CONTROL

IN THE MATTER OF THE APPLICATION OF 7 UNS ELECTRIC. INC. FOR THE 8 ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES 9 DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF 10 THE PROERTIES OF UNS ELECTRIC, INC. 11 DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA

AND FOR RELATED APPROVALS.

DOCKET NO. E-04204A-15-0142

WAL-MART STORES, INC.'S NOTICE OF FILING DIRECT TESTIMONY OF STEVE W. CHRISS ON PROPOSED RATE INCREASE

Wal-Mart Stores, Inc. ("Walmart"), herby provides notice of the filing of Steve W. Chriss' direct testimony (except that related to rate design and cost of service) in the abovereferenced matter.

Dated this 6th day of November, 2015.

Arizona Corporation Commission DOCKETED

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458756:24018-0008

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#### BEFORE THE ARIZONA CORPORATION COMMISSION

#### **COMMISSIONERS**

SUSAN BITTER SMITH, CHAIRMAN BOB STUMP BOB BURNS TOM FORESE DOUG LITTLE

IN THE MATTER OF THE APPLICATION OF UNS ELECTRIC, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS ELECTRIC, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA, AND FOR RELATED APPROVALS

**DOCKET NO. E-04204A-15-0142** 

**TESTIMONY AND EXHIBITS OF** 

STEVE W. CHRISS

ON BEHALF OF

WAL-MART STORES, INC.

**NOVEMBER 6, 2015** 

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5	Exhibit SWC-3 – Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2012 to Present

#### Introduction

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### Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

My name is Steve W. Chriss. My business address is 2001 SE 10th St.,

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A.

Bentonville, AR 72716-0550. I am employed by Wal-Mart Stores, Inc. as Senior

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Manager, Energy Regulatory Analysis.

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#### Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS DOCKET?

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A. I am testifying on behalf of Wal-Mart Stores, Inc. ("Walmart").

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#### Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.

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A. In 2001, I completed a Master of Science in Agricultural Economics at Louisiana

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State University. From 2001 to 2003, I was an Analyst and later a Senior Analyst at

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the Houston office of Econ One Research, Inc., a Los Angeles-based consulting firm.

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My duties included research and analysis on domestic and international energy and

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regulatory issues. From 2003 to 2007, I was an Economist and later a Senior Utility

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Analyst at the Public Utility Commission of Oregon in Salem, Oregon. My duties

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included appearing as a witness for PUC Staff in electric, natural gas, and

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telecommunications dockets. I joined the energy department at Walmart in July 2007

17 18 as Manager, State Rate Proceedings, and was promoted to my current position in June

2011. My Witness Qualifications Statement is included herein as Exhibit SWC-1.

# Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE ARIZONA CORPORATION COMMISSION ("THE COMMISSION")?

A. Yes. I submitted testimony in Docket No. E-01345A-11-0224.

# Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE OTHER STATE REGULATORY COMMISSIONS?

A. Yes. I have submitted testimony in over 135 proceedings before 36 other utility regulatory commissions and before the Missouri House Committee on Utilities, the Missouri Senate Veterans' Affairs, Emerging Issues, Pensions, and Urban Affairs Committee, and the Kansas House Standing Committee on Utilities and Telecommunications. My testimony has addressed topics including, but not limited to, cost of service and rate design, revenue requirement, ratemaking policy, qualifying facility rates, telecommunications deregulation, resource certification, energy efficiency/demand side management, fuel cost adjustment mechanisms, decoupling, and the collection of cash earnings on construction work in progress.

#### Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes. I am sponsoring the exhibits listed in the Table of Contents.

#### Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS IN ARIZONA.

A. Walmart operates 124 retail units and employs 34,798 associates in Arizona. In fiscal year ending 2015, Walmart purchased \$772.4 million worth of goods and services from Arizona-based suppliers, supporting 19,248 supplier jobs. <sup>1</sup>

<sup>&</sup>lt;sup>1</sup> http://corporate.walmart.com/our-story/locations/united-states#/united-states/arizona

# Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS WITHIN THE COMPANY'S SERVICE TERRITORY.

A. Walmart has three stores that take electric service from UNS Electric, Inc. ("UNSE" or "the Company") primarily on the Large Power Service schedule ("LPS").

#### **Purpose of Testimony**

#### Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address aspects of UNSE's rate case filing and to provide recommendations to assist the Commission in its thorough and careful consideration of the impact on customers of the Company's proposed rate increase.

Walmart will also file testimony in the cost of service and rate design portion of this docket.

#### **Summary of Recommendations**

- Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE COMMISSION.
- A. My recommendations to the Commission are as follows:
  - The Commission should thoroughly and carefully consider the impact on customers in examining the requested revenue requirement and ROE, in addition to all other facets of this case, to ensure that any increase in the Company's rates is only the minimum amount necessary to provide adequate and reliable service, while also providing an opportunity to earn a reasonable return.

2)

The Commission should closely examine the Company's proposed revenue requirement increase and the associated proposed increase in return on equity, especially when viewed in light of (a) the customer impact of the resulting revenue requirement increases and (b) recent rate case returns on equity ("ROE") approved by commissions nationwide. In addition, unless the Commission determines that UNSE has sufficiently and substantially demonstrated a significant change in the economic environment faced by the Company since the Commission's Decision No. 74235 in Docket No. E-04204A-12-0504, the Commission should approve an ROE no higher than the currently allowed ROE of 9.5 percent.

The fact that an issue is not addressed herein or in related filings should not be construed as an endorsement of any filed position.

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#### **UNSE'S Proposed Revenue Requirement Increase**

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# Q. WHAT IS YOUR UNDERSTANDING OF THE COMPANY'S PROPOSED ELECTRIC REVENUE REQUIREMENT INCREASE?

A. My understanding is that the Company proposes a \$22.6 million increase to non-fuel revenues, based on a test year ending December 31, 2014. The Company proposes fuel and deferred accounting offsets to the increase which would decrease UNSE's overall revenues by approximately \$5.8 million in the first year. The Company proposes that in year two their overall revenues reflect an increase of \$3.5 million. See Direct Testimony of Dallas J. Dukes, page 5, line 23, to page 6, line 7 and Schedule A-1.

Q.

A.

ARE THE PROPOSED FUEL-RELATED OFFSETS RELEVANT TO THE COMMISSION'S CONSIDERATION OF THE MERITS OF UNSE'S PROPOSED BASE RATE INCREASE?

- A. No. While it is undisputed that reductions from the fuel-related offsets benefit customers, those offsets are not relevant to the Commission's consideration of the merits of UNSE's proposed base rate increase. What is at issue in this docket is a proposed *permanent* base rate increase that will be in place regardless of the level of the Company's fuel cost and should be considered by the Commission on its own merits and not in conjunction with unrelated contemporaneous changes in other components of UNSE's retail rates.
- Q. SHOULD THE COMMISSION GENERALLY CONSIDER THE IMPACT OF THE PROPOSED RATE INCREASE ON CUSTOMERS IN SETTING THE REVENUE REQUIREMENT CHANGES AND ROE FOR THE COMPANY?
  - Yes. Electricity represents a significant portion of a retailer's operating costs. When electric rates increase, that increase in cost to retailers puts pressure on consumer prices and on the other expenses required by a business to operate. The Commission should thoroughly and carefully consider the impact on customers in examining the requested revenue requirement and ROE, in addition to all other facets of this case, to ensure that any increase in the Company's rates is only the minimum amount necessary to provide adequate and reliable service, while also providing an opportunity to earn a reasonable return.

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#### **Return on Equity**

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#### Q. WHAT IS THE COMPANY'S PROPOSED ROE IN THIS DOCKET?

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to 10.6 percent. *See* Direct Testimony of Ann E. Bulkley, page 3, line 20 to line 23. This results in a proposed overall weighted average cost of capital of 7.67 percent.

The Company is proposing an ROE of 10.35 percent based on a range of 10 percent

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See Direct Testimony of Ketton C. Grant, page 8, line 11.

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#### Q. ARE YOU CONCERNED THAT THE PROPOSED ROE IS EXCESSIVE?

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A. Yes. I am concerned that the Company's proposed ROE is excessive, especially

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when viewed in light of (a) the customer impact of the resulting revenue requirement

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increases as I discuss above and (b) recent rate case ROEs approved by commissions

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#### **Customer Impact**

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nationwide.

significant impact to customers.

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# Q. IS THE COMPANY'S PROPOSED ROE HIGHER THAN THE IMPLICIT

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ROE APPROVED IN DOCKET NO. E-04204A-12-0504?

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from the ROE of 9.5 approved by the Commission in the Company's last general rate

Yes. The proposed ROE of 10.35 percent represents an increase of 85 basis points

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case. See Decision No. 74235, ¶31. As such, the Company's ROE proposal has a

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# Q. WHAT IS THE REVENUE REQUIREMENT IMPACT OF THE PROPOSED 85 BASIS POINT INCREASE IN ROE?

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A. The revenue requirement impact of ROE alone on the Company's proposed rate

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increase is approximately \$2.6 million. The requested increase related to ROE

constitutes about 11.3 percent of the Company's base revenue increase request. *See* Schedule SWC-2.

# Q. HAVE ANY OTHER STATES RECOGNIZED THE IMPORTANCE OF CONSIDERING RATEPAYER IMPACTS IN THE ROE DETERMINATION PROCESS?

A. Yes. While I am not an attorney, it is my understanding that the North Carolina Supreme Court determined that impacts on ratepayers from any proposed utility rate increase should be carefully considered in an ROE analysis for that utility. Specifically, the Court stated:

"Given the legislature's goal of balancing customer and investor interests, the customer-focused purpose of Chapter 62, and this Court's recognition that the Commission must consider all evidence presented by interested parties, which necessarily includes customers, it is apparent that customer interests cannot be measured only indirectly or treated as mere afterthoughts and that Chapter 62's ROE provisions cannot be read in isolation as only protecting public utilities and their shareholders. Instead, it is clear that the Commission must take customer interests into account when making an ROE determination. Therefore, we hold that in retail electric service rate cases the Commission must make findings of fact regarding the impact of changing economic conditions on customers when determining the proper ROE for a public utility." *See State Ex Rel. Utils. Comm'n v. Cooper*,366 N.C. 484, 739 S.E.2d 541, 547 (2013) (emphasis in original).

This language is instructive for the Commission's consideration of the increase in ROE being requested by the Company in this case.

Q. IS THE COMPANY'S PROPOSED ROE HIGHER THAN THE AVERAGES
OF THOSE APPROVED BY OTHER UTILITY REGULATORY

**COMMISSIONS?** 

- A. Yes. The proposed ROE is higher than the average ROE approved by other utility regulatory commissions in 2012, 2013, 2014, and so far in 2015.
- Q. WHAT IS YOUR UNDERSTANDING OF THE ROES APPROVED FOR ELECTRIC UTILITIES BY COMMISSIONS NATIONWIDE DURING THIS TIME PERIOD?
- A. According to data from SNL Financial, a financial news and reporting company, the average of the 135 reported electric utility rate case ROEs authorized by state regulatory commissions to investor-owned electric utilities in 2012, 2013, 2014, and so far in 2015, is 9.85 percent. The range of reported authorized ROEs for the period is 8.72 percent to 10.95 percent, and the median authorized ROE is 9.80 percent. *See* Exhibit SWC-3.
- Q. SEVERAL OF THE REPORTED AUTHORIZED ROES ARE FOR DISTRIBUTION-ONLY UTILITIES OR FOR ONLY A UTILITY'S DISTRIBUTION SERVICE RATES. WHAT IS THE AVERAGE AUTHORIZED ROE IN THE REPORTED GROUP FOR PARTIALLY OR FULLY VERTICALLY INTEGRATED UTILITIES LIKE THE COMPANY?
- A. In the group reported by SNL Financial, the average authorized ROE for vertically integrated utilities from 2012 to present is 9.98 percent. *Id.* However, there is a declining trend for vertically integrated utilities from 2012 to present.

#### Q. PLEASE EXPLAIN.

A. The average authorized ROE for vertically integrated utilities in 2012 was 10.1 percent, in 2013 it was 9.97 percent, in 2014 it was 9.92 percent, and so far in 2015 it is 9.65 percent. It should be noted that so far in 2015, five vertically integrated utilities have been authorized ROEs of 9.53 or less. As such, the Company's proposed 10.35 percent ROE in this case is a move counter to broader electric industry trends.

#### Conclusion

A.

# Q. GENERALLY, WHAT IS YOUR RECOMMENDATION TO THE COMMISSION ON THE COMPANY'S PROPOSED INCREASE IN ROE?

The Commission should closely examine the Company's proposed revenue requirement increase and the associated proposed increase in return on equity, especially when viewed in light of (a) the customer impact of the resulting revenue requirement increases as I discuss above, and (b) recent rate case ROEs approved by commissions nationwide. In addition, unless the Commission determines that UNSE has sufficiently and substantially demonstrated a significant change in the economic environment faced by the Company since the Commission's Decision No. 74235 in Docket No. E-04204A-12-0504, the Commission should approve an ROE no higher than the currently allowed ROE of 9.5 percent.

#### Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

# Steve W. Chriss

Senior Manager, Energy Regulatory Analysis

Wal-Mart Stores, Inc.

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Business Phone: (479) 204-1594

#### **EXPERIENCE**

July 2007 - Present

Wal-Mart Stores, Inc., Bentonville, AR

Senior Manager, Energy Regulatory Analysis (June 2011 – Present)

Manager, State Rate Proceedings (July 2007 – June 2011)

June 2003 - July 2007

Public Utility Commission of Oregon, Salem, OR Senior Utility Analyst (February 2006 – July 2007)

Economist (June 2003 – February 2006)

January 2003 - May 2003

North Harris College, Houston, TX

Adjunct Instructor, Microeconomics

June 2001 - March 2003

**Econ One Research, Inc.**, Houston, TX

Senior Analyst (October 2002 – March 2003)

Analyst (June 2001 - October 2002)

#### **EDUCATION**

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Louisiana State University

1997-1998

University of Florida

M.S., Agricultural Economics

Graduate Coursework, Agricultural Education

and Communication

1997

Texas A&M University

B.S., Agricultural Development

B.S., Horticulture

#### TESTIMONY BEFORE REGULATORY COMMISSIONS

2015

Rhode Island Docket No. 4568: In Re: National Grid's Rate Design Plan.

Oklahoma Cause No. PUD 201500208: Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in its Rates and Charges and the Electric Service Rules, Regulations and Conditions of Service for Electric Service in the State of Oklahoma.

Wisconsin Docket No. 4220-UR-121: Application of Northern States Power Company, A Wisconsin Corporation, for Authority to Adjust Electric and Natural Gas Rates.

Arkansas Docket No. 15-015-U: In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service.

New York Case No. 15-E-0283: Proceeding on Motion of the Commission as to the Rates, Charges, Rules, and Regulations of New York State Electric & Gas Corporation for Electric Service.

New York Case No. 15-G-0284: Proceeding on Motion of the Commission as to the Rates, Charges, Rules, and Regulations of New York State Electric & Gas Corporation for Gas Service.

New York Case No. 15-E-0285: Proceeding on Motion of the Commission as to the Rates, Charges, Rules, and Regulations of Rochester Gas & Electric Corporation for Electric Service.

New York Case No. 15-G-0286: Proceeding on Motion of the Commission as to the Rates, Charges, Rules, and Regulations of Rochester Gas & Electric Corporation for Gas Service.

Ohio Case No. 14-1693-EL-RDR: In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter Into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider.

Wisconsin Docket No. 6690-UR-124: Application of Wisconsin Public Service Corporation for Authority to Adjust Electric and Natural Gas Rates.

Arkansas Docket No. 15-034-U: In the Matter of an Interim Rate Schedule of Oklahoma Gas and Electric Company Imposing a Surcharge to Recover All Investments and Expenses Incurred Through Compliance with Legislative or Administrative Rules, Regulations, or Requirements Relating to the Public Health, Safety or the Environment Under the Federal Clean Air Act for Certain of its Existing Generation Facilities.

Kansas Docket No. 15-WSEE-115-RTS: In the Matter of the Application of Westar Energy, Inc. and Kansas Gas and Electric Company to Make Certain Changes in their Charges for Electric Service.

Michigan Case No. U-17767: In the Matter of the Application of DTE Electric Company for Authority to Increase its Rates, Amend its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy, and for Miscellaneous Accounting Authority.

Texas Docket No. 43695: Application of Southwestern Public Service Company for Authority to Change Rates.

Kansas Docket No. 15-KCPE-116-RTS: In the Matter of the Application of Kansas City Power & Light Company to Make Certain Changes in its Charges for Electric Service.

Michigan Case No. U-17735: In the Matter of the Application of the Consumers Energy Company for Authority to Increase its Rates for the Generation and Distribution of Electricity and for Other Relief.

Kentucky Public Service Commission Case No. 2014-00396: Application of Kentucky Power Company for a General Adjustment of its Rates for Electric Service; (2) an Order Approving its 2014 Environmental Compliance Plan; (3) an Order Approving its Tariffs and Riders; and (4) an Order Granting All Other Required Approvals and Relief.

Kentucky Public Service Commission Case No. 2014-00371: In the Matter of the Application of Kentucky Utilities Company for an Adjustment of its Electric Rates.

Kentucky Public Service Commission Case No. 2014-00372: In the Matter of the Application of Louisville Gas and Electric Company for an Adjustment of its Electric and Gas Rates.

#### 2014

Ohio Public Utilities Commission Case No. 14-1297-EL-SSO: In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and the Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan.

West Virginia Case No. 14-1152-E-42T: Appalachian Power Company and Wheeling Power Company, Both d/b/a American Electric Power, Joint Application for Rate Increases and Changes in Tariff Provisions.

Oklahoma Corporation Commission Cause No. PUD 201400229: In the Matter of the Application of Oklahoma Gas and Electric Company for Commission Authorization of a Plan to Comply with the Federal Clean Air Act and Cost Recovery; and for Approval of the Mustang Modernization Plan.

Missouri Public Service Commission Case No. ER-2014-0258: In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase its Revenues for Electric Service.

Pennsylvania Public Utility Commission Docket No. R-2014-2428742: Pennsylvania Public Utility Commission v. West Penn Power Company.

Pennsylvania Public Utility Commission Docket No. R-2014-2428743: Pennsylvania Public Utility Commission v. Pennsylvania Electric Company.

Pennsylvania Public Utility Commission Docket No. R-2014-2428744: Pennsylvania Public Utility Commission v. Pennsylvania Power Company.

Pennsylvania Public Utility Commission Docket No. R-2014-2428745: Pennsylvania Public Utility Commission v. Metropolitan Edison Company.

Washington Utilities and Transportation Commission Docket No. UE-141368: In the Matter of the Petition of Puget Sound Energy to Update Methodologies Used to Allocate Electric Cost of Service and For Electric Rate Design Purposes.

Washington Utilities and Transportation Commission Docket No. UE-140762: 2014 Pacific Power & Light Company General Rate Case.

West Virginia Public Service Commission Case No. 14-0702-E-42T: Monongahela Power Company and the Potomac Edison Company Rule 42T Tariff Filing to Increase Rates and Charges.

Ohio Public Utilities Commission Case No. 14-841-EL-SSO: In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of Case No. 14-841-EL-SSO an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service.

Colorado Public Utilities Commission Docket No. 14AL-0660E: Re: In the Matter of the Advice Letter No. 1672-Electric Filed by Public Service Company of Colorado to Revise its Colorado PUC No. 7-Electric Tariff to Implement a General Rate Schedule Adjustment and Other Rate Changes Effective July 18, 2014.

Maryland Case No. 9355: In the Matter of the Application of Baltimore Gas and Electric Company for Authority to Increase Existing Rates and Charges for Electric and Gas Service.

Mississippi Public Service Commission Docket No. 2014-UN-132: In Re: Notice of Intent of Entergy Mississippi, Inc. to Modernize Rates to Support Economic Development, Power Procurement, and Continued Investment.

Nevada Public Utilities Commission Docket No. 14-05004: Application of Nevada Power Company d/b/a NV Energy for Authority to Increase its Annual Revenue Requirement for General Rates Charged to All Classes of Electric Customers and for Relief Properly Related Thereto.

Utah Public Service Commission Docket No. 14-035-T02: In the Matter of Rocky Mountain Power's Proposed Electric Service Schedule No. 32, Service From Renewable Energy Facilities.

Florida Public Service Commission Docket No. 140002-EG: In Re: Energy Conservation Cost Recovery Clause.

Wisconsin Docket No. 6690-UR-123: Application of Wisconsin Public Service Corporation for Authority to Adjust Electric and Natural Gas Rates.

Connecticut Docket No. 14-05-06: Application of the Connecticut Light and Power Company to Amend its Rate Schedules.

Virginia Corporation Commission Case No. PUE-2014-00026: Application of Appalachian Power Company for a 2014 Biennial Review for the Provision of Generation, Distribution and Transmission Services Pursuant to § 56-585.1 A of the Code of Virginia.

Virginia Corporation Commission Case No. PUE-2014-00033: Application of Virginia Electric and Power Company to Revise its Fuel Factor Pursuant to Va. Code § 56-249.6.

Arizona Corporation Commission Docket No. E-01345A-11-0224 (Four Corners Phase): In the Matter of Arizona Public Service Company for a Hearing to Determine the Fair Value of Utility Property of the Company for Ratemaking Purposes, to Fix and Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return.

Minnesota Public Utilities Commission Docket No. E-002/GR-13-868: In the Matter of the Application of Northern States Power Company, for Authority to Increase Rates for Electric Service in Minnesota.

Utah Public Service Commission Docket No. 13-035-184: In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations.

Missouri Public Service Commission Case No. EC-2014-0224: In the Matter of Noranda Aluminum, Inc.'s Request for Revisions to Union Electric Company d/b/a Ameren Missouri's Large Transmission Service Tariff to Decrease its Rate for Electric Service.

Oklahoma Corporation Commission Cause No. PUD 201300217: Application of Public Service Company of Oklahoma to be in Compliance with Order No. 591185 Issued in Cause No. PUD 201100106 Which Requires a Base Rate Case to be Filed by PSO and the Resulting Adjustment in its Rates and Charges and Terms and Conditions of Service for Electric Service in the State of Oklahoma.

Public Utilities Commission of Ohio Case No. 13-2386-EL-SSO: In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to §4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan. 2013

Oklahoma Corporation Commission Cause No. PUD 201300201: Application of Public Service Company of Oklahoma for Commission Authorization of a Standby and Supplemental Service Rate Schedule.

Georgia Public Service Commission Docket No. 36989: Georgia Power's 2013 Rate Case.

Florida Public Service Commission Docket No. 130140-EI: Petition for Rate Increase by Gulf Power Company.

Public Utility Commission of Oregon Docket No. UE 267: In the Matter of PACIFICORP, dba PACIFIC POWER, Transition Adjustment, Five-Year Cost of Service Opt-Out.

Illinois Commerce Commission Docket No. 13-0387: Commonwealth Edison Company Tariff Filing to Present the Illinois Commerce Commission with an Opportunity to Consider Revenue Neutral Tariff Changes Related to Rate Design Authorized by Subsection 16-108.5 of the Public Utilities Act.

Iowa Utilities Board Docket No. RPU-2013-0004: In Re: MidAmerican Energy Company.

South Dakota Public Utilities Commission Docket No. EL12-061: In the Matter of the Application of Black Hills Power, Inc. for Authority to Increase its Electric Rates. (filed with confidential stipulation)

Kansas Corporation Commission Docket No. 13-WSEE-629-RTS: In the Matter of the Applications of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in their Charges for Electric Service.

Public Utility Commission of Oregon Docket No. UE 263: In the Matter of PACIFICORP, dba PACIFIC POWER, Request for a General Rate Revision.

Arkansas Public Service Commission Docket No. 13-028-U: In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service.

Virginia State Corporation Commission Docket No. PUE-2013-00020: Application of Virginia Electric and Power Company for a 2013 Biennial Review of the Rates, Terms, and Conditions for the Provision of Generation, Distribution, and Transmission Services Pursuant to § 56-585.1 A of the Code of Virginia.

Florida Public Service Commission Docket No. 130040-EI: Petition for Rate Increase by Tampa Electric Company.

South Carolina Public Service Commission Docket No. 2013-59-E: Application of Duke Energy Carolinas, LLC, for Authority to Adjust and Increase Its Electric Rates and Charges.

Public Utility Commission of Oregon Docket No. UE 262: In the Matter of PORTLAND GENERAL ELECTRIC COMPANY, Request for a General Rate Revision.

New Jersey Board of Public Utilities Docket No. ER12111052: In the Matter of the Verified Petition of Jersey Central Power & Light Company For Review and Approval of Increases in and Other Adjustments to Its Rates and Charges For Electric Service, and For Approval of Other Proposed Tariff Revisions in Connection Therewith; and for Approval of an Accelerated Reliability Enhancement Program ("2012 Base Rate Filing")

North Carolina Utilities Commission Docket No. E-7, Sub 1026: In the Matter of the Application of Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina.

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Public Utilities Commission of California Docket No. 12-12-002: Application of Pacific Gas and Electric Company for 2013 Rate Design Window Proceeding.

Public Utilities Commission of Ohio Docket Nos. 12-426-EL-SSO, 12-427-EL-ATA, 12-428-EL-AAM, 12-429-EL-WVR, and 12-672-EL-RDR: In the Matter of the Application of the Dayton Power and Light Company Approval of its Market Offer.

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Public Utility Commission of Texas Docket No. 40443: Application of Southwestern Electric Power Company for Authority to Change Rates and Reconcile Fuel Costs.

South Carolina Public Service Commission Docket No. 2012-218-E: Application of South Carolina Electric & Gas Company for Increases and Adjustments in Electric Rate Schedules and Tariffs and Request for Mid-Period Reduction in Base Rates for Fuel.

Kansas Corporation Commission Docket No. 12-KCPE-764-RTS: In the Matter of the Application of Kansas City Power & Light Company to Make Certain Changes in its Charges for Electric Service.

Kansas Corporation Commission Docket No. 12-GIMX-337-GIV: In the Matter of a General Investigation of Energy-Efficiency Policies for Utility Sponsored Energy Efficiency Programs.

Florida Public Service Commission Docket No. 120015-EI: In Re: Petition for Rate Increase by Florida Power & Light Company.

California Public Utilities Commission Docket No. A.11-10-002: Application of San Diego Gas & Electric Company (U 902 E) for Authority to Update Marginal Costs, Cost Allocation, and Electric Rate Design.

Utah Public Service Commission Docket No. 11-035-200: In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations.

Virginia State Corporation Commission Case No. PUE-2012-00051: Application of Appalachian Power Company to Revise its Fuel Factor Pursuant to § 56-249.6 of the Code of Virginia.

Public Utilities Commission of Ohio Case Nos. 11-346-EL-SSO, 11-348-EL-SSO, 11-349-EL-AAM, and 11-350-EL-AAM: In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form on an Electric Security Plan and In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of Certain Accounting Authority.

New Jersey Board of Public Utilities Docket No. ER11080469: In the Matter of the Petition of Atlantic City Electric for Approval of Amendments to Its Tariff to Provide for an Increase in Rates and Charges for Electric Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1 and For Other Appropriate Relief.

Public Utility Commission of Texas Docket No. 39896: Application of Entergy Texas, Inc. for Authority to Change Rates and Reconcile Fuel Costs.

Missouri Public Service Commission Case No. EO-2012-0009:In the Matter of KCP&L Greater Missouri Operations Notice of Intent to File an Application for Authority to Establish a Demand-Side Programs Investment Mechanism.

Colorado Public Utilities Commission Docket No. 11AL-947E: In the Matter of Advice Letter No. 1597-Electric Filed by Public Service Company of Colorado to Revise its Colorado PUC No. 7-Electric Tariff to Implement a General Rate Schedule Adjustment and Other Changes Effective December 23, 2011.

Illinois Commerce Commission Docket No. 11-0721: Commonwealth Edison Company Tariffs and Charges Submitted Pursuant to Section 16-108.5 of the Public Utilities Act.

Public Utility Commission of Texas Docket No. 38951: Application of Entergy Texas, Inc. for Approval of Competitive Generation Service tariff (Issues Severed from Docket No. 37744).

California Public Utilities Commission Docket No. A.11-06-007: Southern California Edison's General Rate Case, Phase 2.

#### 2011

Arizona Corporation Commission Docket No. E-01345A-11-0224: In the Matter of Arizona Public Service Company for a Hearing to Determine the Fair Value of Utility Property of the Company for Ratemaking Purposes, to Fix and Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return.

Oklahoma Corporation Commission Cause No. PUD 201100087: In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma.

South Carolina Public Service Commission Docket No. 2011-271-E: Application of Duke Energy Carolinas, LLC for Authority to Adjust and Increase its Electric Rates and Charges.

Pennsylvania Public Utility Commission Docket No. P-2011-2256365: Petition of PPL Electric Utilities Corporation for Approval to Implement Reconciliation Rider for Default Supply Service.

North Carolina Utilities Commission Docket No. E-7, Sub 989: In the Matter of Application of Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina.

Florida Public Service Commission Docket No. 110138: In Re: Petition for Increase in Rates by Gulf Power Company.

Public Utilities Commission of Nevada Docket No. 11-06006: In the Matter of the Application of Nevada Power Company, filed pursuant to NRS 704.110(3) for authority to increase its annual revenue requirement for general rates charged to all classes of customers to recover the costs of constructing the Harry Allen Combined Cycle plant and other generating, transmission, and distribution plant additions, to reflect changes in the cost of capital, depreciation rates and cost of service, and for relief properly related thereto.

North Carolina Utilities Commission Docket Nos. E-2, Sub 998 and E-7, Sub 986: In the Matter of the Application of Duke Energy Corporation and Progress Energy, Inc., to Engage in a Business Combination Transaction and to Address Regulatory Conditions and Codes of Conduct.

Public Utilities Commission of Ohio Case Nos. 11-346-EL-SSO, 11-348-EL-SSO, 11-349-EL-AAM, and 11-350-EL-AAM: In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form on an Electric Security Plan and In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of Certain Accounting Authority.

Virginia State Corporation Commission Case No. PUE-2011-00037: In the Matter of Appalachian Power Company for a 2011 Biennial Review of the Rates, Terms, and Conditions for the Provision of Generation, Distribution, and Transmission Services Pursuant to § 56-585.1 A of the Code of Virginia.

Illinois Commerce Commission Docket No. 11-0279 and 11-0282 (cons.): Ameren Illinois Company Proposed General Increase in Electric Delivery Service and Ameren Illinois Company Proposed General Increase in Gas Delivery Service.

Virginia State Corporation Commission Case No. PUE-2011-00045: Application of Virginia Electric and Power Company to Revise its Fuel Factor Pursuant to § 56-249.6 of the Code of Virginia.

Utah Public Service Commission Docket No. 10-035-124: In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations.

Maryland Public Utilities Commission Case No. 9249: In the Matter of the Application of Delmarva Power & Light for an Increase in its Retail Rates for the Distribution of Electric Energy.

Minnesota Public Utilities Commission Docket No. E002/GR-10-971: In the Matter of the Application of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota.

Michigan Public Service Commission Case No. U-16472: In the Matter of the Detroit Edison Company for Authority to Increase its Rates, Amend its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy, and for Miscellaneous Accounting Authority.

#### 2010

Public Utilities Commission of Ohio Docket No. 10-2586-EL-SSO: In the Matter of the Application of Duke Energy Ohio for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications, and Tariffs for Generation Service.

Colorado Public Utilities Commission Docket No. 10A-554EG: In the Matter of the Application of Public Service Company of Colorado for Approval of a Number of Strategic Issues Relating to its DSM Plan, Including Long-Term Electric Energy Savings Goals, and Incentives.

Public Service Commission of West Virginia Case No. 10-0699-E-42T: Appalachian Power Company and Wheeling Power Company Rule 42T Application to Increase Electric Rates.

Oklahoma Corporation Commission Cause No. PUD 201000050: Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in its Rates and Charges and Terms and Conditions of Service for Electric Service in the State of Oklahoma.

Georgia Public Service Commission Docket No. 31958-U: In Re: Georgia Power Company's 2010 Rate Case.

Washington Utilities and Transportation Commission Docket No. UE-100749: 2010 Pacific Power & Light Company General Rate Case.

Colorado Public Utilities Commission Docket No. 10M-254E: In the Matter of Commission Consideration of Black Hills Energy's Plan in Compliance with House Bill 10-1365, "Clean Air-Clean Jobs Act."

Colorado Public Utilities Commission Docket No. 10M-245E: In the Matter of Commission Consideration of Public Service Company of Colorado Plan in Compliance with House Bill 10-1365, "Clean Air-Clean Jobs Act."

Public Service Commission of Utah Docket No. 09-035-15 *Phase II*: In the Matter of the Application of Rocky Mountain Power for Approval of its Proposed Energy Cost Adjustment Mechanism.

Public Utility Commission of Oregon Docket No. UE 217: In the Matter of PACIFICORP, dba PACIFIC POWER Request for a General Rate Revision.

Mississippi Public Service Commission Docket No. 2010-AD-57: In Re: Proposal of the Mississippi Public Service Commission to Possibly Amend Certain Rules of Practice and Procedure.

Indiana Utility Regulatory Commission Cause No. 43374: Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to Ind. Code § 8-1-2.5-1, ET SEQ., for the Offering of Energy Efficiency Conservation, Demand Response, and Demand-Side Management Programs and Associated Rate Treatment Including Incentives Pursuant to a Revised Standard Contract Rider No. 66 in Accordance with Ind. Code §§ 8-1-2.5-1 ET SEQ. and 8-1-2-42 (a); Authority to Defer Program Costs Associated with its Energy Efficiency Portfolio of Programs; Authority to Implement New and Enhanced Energy Efficiency Programs, Including the Powershare® Program in its Energy Efficiency Portfolio of Programs; and Approval of a Modification of the Fuel Adjustment Clause Earnings and Expense Tests.

Public Utility Commission of Texas Docket No. 37744: Application of Entergy Texas, Inc. for Authority to Change Rates and to Reconcile Fuel Costs.

South Carolina Public Service Commission Docket No. 2009-489-E: Application of South Carolina Electric & Gas Company for Adjustments and Increases in Electric Rate Schedules and Tariffs.

Kentucky Public Service Commission Case No. 2009-00459: In the Matter of General Adjustments in Electric Rates of Kentucky Power Company.

Virginia State Corporation Commission Case No. PUE-2009-00125: For acquisition of natural gas facilities Pursuant to § 56-265.4:5 B of the Virginia Code.

Arkansas Public Service Commission Docket No. 10-010-U: In the Matter of a Notice of Inquiry Into Energy Efficiency.

Connecticut Department of Public Utility Control Docket No. 09-12-05: Application of the Connecticut Light and Power Company to Amend its Rate Schedules.

Arkansas Public Service Commission Docket No. 09-084-U: In the Matter of the Application of Entergy Arkansas, Inc. For Approval of Changes in Rates for Retail Electric Service.

Missouri Public Service Commission Docket No. ER-2010-0036: In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.

Public Service Commission of Delaware Docket No. 09-414: In the Matter of the Application of Delmarva Power & Light Company for an Increase in Electric Base Rates and Miscellaneous Tariff Charges.

#### 2009

Virginia State Corporation Commission Case No. PUE-2009-00030: In the Matter of Appalachian Power Company for a Statutory Review of the Rates, Terms, and Conditions for the Provision of Generation, Distribution, and Transmission Services Pursuant to § 56-585.1 A of the Code of Virginia.

Public Service Commission of Utah Docket No. 09-035-15 *Phase I*: In the Matter of the Application of Rocky Mountain Power for Approval of its Proposed Energy Cost Adjustment Mechanism.

Public Service Commission of Utah Docket No. 09-035-23: In the Matter of the Application of Rocky Mountain Power for Authority To Increase its Retail Electric Utility Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Service Regulations.

Colorado Public Utilities Commission Docket No. 09AL-299E: Re: The Tariff Sheets Filed by Public Service Company of Colorado with Advice Letter No. 1535 – Electric.

Arkansas Public Service Commission Docket No. 09-008-U: In the Matter of the Application of Southwestern Electric Power Company for Approval of a General Change in Rates and Tariffs.

Oklahoma Corporation Commission Docket No. PUD 200800398: In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma.

Public Utilities Commission of Nevada Docket No. 08-12002: In the Matter of the Application by Nevada Power Company d/b/a NV Energy, filed pursuant to NRS §704.110(3) and NRS §704.110(4) for authority to increase its annual revenue requirement for general rates charged to all classes of customers, begin to recover the costs of acquiring the Bighorn Power Plant, constructing the Clark Peakers, Environmental Retrofits and other generating, transmission and distribution plant additions, to reflect changes in cost of service and for relief properly related thereto.

New Mexico Public Regulation Commission Case No. 08-00024-UT: In the Matter of a Rulemaking to Revise NMPRC Rule 17.7.2 NMAC to Implement the Efficient Use of Energy Act.

Indiana Utility Regulatory Commission Cause No. 43580: Investigation by the Indiana Utility Regulatory Commission, of Smart Grid Investments and Smart Grid Information Issues Contained in 111(d) of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. § 2621(d)), as Amended by the Energy Independence and Security Act of 2007.

Louisiana Public Service Commission Docket No. U-30192 *Phase II (February 2009)*: Ex Parte, Application of Entergy Louisiana, LLC for Approval to Repower Little Gypsy Unit 3 Electric Generating Facility and for Authority to Commence Construction and for Certain Cost Protection and Cost Recovery.

South Carolina Public Service Commission Docket No. 2008-251-E: In the Matter of Progress Energy Carolinas, Inc.'s Application For the Establishment of Procedures to Encourage Investment in Energy Efficient Technologies; Energy Conservation Programs; And Incentives and Cost Recovery for Such Programs.

#### 2008

Colorado Public Utilities Commission Docket No. 08A-366EG: In the Matter of the Application of Public Service Company of Colorado for approval of its electric and natural gas demand-side management (DSM) plan for calendar years 2009 and 2010 and to change its electric and gas DSM cost adjustment rates effective January 1, 2009, and for related waivers and authorizations.

Public Service Commission of Utah Docket No. 07-035-93: In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations, Consisting of a General Rate Increase of Approximately \$161.2 Million Per Year, and for Approval of a New Large Load Surcharge.

Indiana Utility Regulatory Commission Cause No. 43374: Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission Approve an Alternative Regulatory Plan for the Offering of Energy Efficiency, Conservation, Demand Response, and Demand-Side Management.

Public Utilities Commission of Nevada Docket No. 07-12001: In the Matter of the Application of Sierra Pacific Power Company for authority to increase its general rates charged to all classes of electric customers to reflect an increase in annual revenue requirement and for relief properly related thereto.

Louisiana Public Service Commission Docket No. U-30192 *Phase II*: Ex Parte, Application of Entergy Louisiana, LLC for Approval to Repower Little Gypsy Unit 3 Electric Generating Facility and for Authority to Commence Construction and for Certain Cost Protection and Cost Recovery.

Colorado Public Utilities Commission Docket No. 07A-420E: In the Matter of the Application of Public Service Company of Colorado For Authority to Implement and Enhanced Demand Side Management Cost Adjustment Mechanism to Include Current Cost Recovery and Incentives.

#### 2007

Louisiana Public Service Commission Docket No. U-30192: Ex Parte, Application of Entergy Louisiana, LLC for Approval to Repower Little Gypsy Unit 3 Electric Generating Facility and for Authority to Commence Construction and for Certain Cost Protection and Cost Recovery.

Public Utility Commission of Oregon Docket No. UG 173: In the Matter of PUBLIC UTILITY COMMISSION OF OREGON Staff Request to Open an Investigation into the Earnings of Cascade Natural Gas.

#### 2006

Public Utility Commission of Oregon Docket No. UE 180/UE 181/UE 184: In the Matter of PORTLAND GENERAL ELECTRIC COMPANY Request for a General Rate Revision.

Public Utility Commission of Oregon Docket No. UE 179: In the Matter of PACIFICORP, dba PACIFIC POWER AND LIGHT COMPANY Request for a general rate increase in the company's Oregon annual revenues.

Public Utility Commission of Oregon Docket No. UM 1129 *Phase II*: Investigation Related to Electric Utility Purchases From Qualifying Facilities.

#### 2005

Public Utility Commission of Oregon Docket No. UM 1129 *Phase I Compliance*: Investigation Related to Electric Utility Purchases From Qualifying Facilities.

Public Utility Commission of Oregon Docket No. UX 29: In the Matter of QWEST CORPORATION Petition to Exempt from Regulation Qwest's Switched Business Services.

#### 2004

Public Utility Commission of Oregon Docket No. UM 1129 *Phase I*: Investigation Related to Electric Utility Purchases From Qualifying Facilities.

#### TESTIMONY BEFORE LEGISLATIVE BODIES

2014

Regarding Kansas House Bill 2460: Testimony Before the Kansas House Standing Committee on Utilities and Telecommunications, February 12, 2014.

#### 2012

Regarding Missouri House Bill 1488: Testimony Before the Missouri House Committee on Utilities, February 7, 2012.

#### 2011

Regarding Missouri Senate Bills 50, 321, 359, and 406: Testimony Before the Missouri Senate Veterans' Affairs, Emerging Issues, Pensions, and Urban Affairs Committee, March 9, 2011.

#### **AFFIDAVITS**

2015

Supreme Court of Illinois, Docket No. 118129, Commonwealth Edison Company et al., respondents, v. Illinois Commerce Commission et al. (Illinois Competitive Energy Association et al., petitioners). Leave to appeal, Appellate Court, First District.

Colorado Public Utilities Commission Docket No. 11M-951E: In the Matter of the Petition of Public Service Company of Colorado Pursuant to C.R.S. § 40-6-111(1)(d) for Interim Rate Relief Effective on or before January 21, 2012.

#### ENERGY INDUSTRY PUBLICATIONS AND PRESENTATIONS

Panelist, The Governor's Utah Energy Development Summit 2015, May 21, 2015.

Mock Trial Expert Witness, The Energy Bar Association State Commission Practice and Regulation Committee and Young Lawyers Committee and Environment, Energy and Natural Resources Section of the D.C. Bar, Mastering Your First (or Next) State Public Utility Commission Hearing, February 13, 2014.

Panelist, Customer Panel, Virginia State Bar 29<sup>th</sup> National Regulatory Conference, Williamsburg, Virginia, May 19, 2011.

Chriss, S. (2006). "Regulatory Incentives and Natural Gas Purchasing – Lessons from the Oregon Natural Gas Procurement Study." Presented at the 19<sup>th</sup> Annual Western Conference, Center for Research in Regulated Industries Advanced Workshop in Regulation and Competition, Monterey, California, June 29, 2006.

Chriss, S. (2005). "Public Utility Commission of Oregon Natural Gas Procurement Study." Public Utility Commission of Oregon, Salem, OR. Report published in June, 2005. Presented to the Public Utility Commission of Oregon at a special public meeting on August 1, 2005.

Chriss, S. and M. Radler (2003). "Report from Houston: Conference on Energy Deregulation and Restructuring." USAEE Dialogue, Vol. 11, No. 1, March, 2003.

Chriss, S., M. Dwyer, and B. Pulliam (2002). "Impacts of Lifting the Ban on ANS Exports on West Coast Crude Oil Prices: A Reconsideration of the Evidence." Presented at the 22nd USAEE/IAEE North American Conference, Vancouver, BC, Canada, October 6-8, 2002.

Contributed to chapter on power marketing: "Power System Operations and Electricity Markets," Fred I. Denny and David E. Dismukes, authors. Published by CRC Press, June 2002.

Contributed to "Moving to the Front Lines: The Economic Impact of the Independent Power Plant Development in Louisiana," David E. Dismukes, author. Published by the Louisiana State University Center for Energy Studies, October 2001.

Dismukes, D.E., D.V. Mesyanzhinov, E.A. Downer, S. Chriss, and J.M. Burke (2001). "Alaska Natural Gas In-State Demand Study." Anchorage: Alaska Department of Natural Resources.

### Calculation of Revenue Requirement Impact of UNSE's Proposed Increase in ROE

(1)		UNS Requested Rate of Return		7.67%	
		1) Calculate Rate of Return at ROE = 9.5%			
		Capital Component	% of Total	Cost	Weighted Cost
(2)		Debt	47.17%	4.66%	2.20%
(3)		Common Equity	52.83%	9.50%	5.02%
(4)		Total	100.00%		7.22%
		2) Revenue Requirement Impact			
(5)		Fair Value Rate Base (\$000)	\$355,720		
(6)	= (4)	Rate of Return (ROE = 9.5%)	7.22%		
(7)		Fair Value Adjustment	-1.45%		
(8)		Required Rate of Return	5.77%		
(9)	(5) x (8)	Adjusted Operating Income (ROE = 9.5%)	\$20,514		
(10)		UNSE Proposed Operating Income	\$22,108		
(11)	(10) - (9)	Difference in Operating Income	\$1,594		
(12)		Conversion Factor	1.6084		
(13)	(11) x (12)	Difference in Revenue Requirement	\$2,563		
(14)		Requested Revenue Requirement Increase (\$000)	\$22,621		
(15)	(13) / (14)	Increase Request from ROE Increase	11.3%		

Sources:

Schedule A-1

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### Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2012 to Present

			Decision	Vertically Integrated (V)/Distribution	Return on
State	Utility	Docket	Date	(D)	Equity
					(%)
South Carolina	Duke Energy Carolinas LLC	2011-271-E	1/25/2012	V	10.50%
North Carolina	Duke Energy Carolinas LLC	E-7, Sub 989	1/27/2012	V	10.50%
Michigan	Indiana Michigan Power Co.	U-16801	2/15/2012	V	10.20%
Oregon	Idaho Power Co.	UE-233	2/23/2012	V	9.90%
Florida	Gulf Power Co.	110138-EI	2/27/2012	V	10.25%
North Dakota	Northern States Power Co.	PU-10-657	2/29/2012	V	10.40%
Minnesota	Northern States Power Co.	E-002/GR-10-971	3/29/2012	V	10.37%
Hawaii	Hawaii Electric Light Co	2009-0164	4/4/2012	V	10.00%
Colorado	Public Service Co. of CO	11AL-947E	4/26/2012	V	10.00%
Hawaii	Maui Electric Company Ltd	2009-0163	5/2/2012	V	10.00%
Washington	Puget Sound Energy Inc.	UE-111048	5/7/2012	V	9.80%
Arizona	Arizona Public Service Co.	E-01345A-11-0224	5/15/2012	V	10.00%
Illinois	Commonwealth Edison Co.	11-0721	5/29/2012	D	10.05%
Michigan	Consumers Energy Co.	U-16794	6/7/2012	V	10.30%
New York	Orange & Rockland Utlts Inc.	11-E-0408	6/14/2012	D	9.40%
Wisconsin	Wisconsin Power and Light Co	6680-UR-118	6/15/2012	V	10.40%
Wyoming	Cheyenne Light Fuel Power Co.	20003-114-ER-11	6/18/2012	V	9.60%
South Dakota	Northern States Power Co.	EL11-019	6/19/2012	V	9.25%
Michigan	Wisconsin Electric Power Co.	U-16830	6/26/2012	V	10.10%
Hawaii	Hawaiian Electric Co.	2010-0080	6/29/2012	V	10.00%
Oklahoma	Oklahoma Gas and Electric Co.	PUD201100087	7/9/2012	V	10.20%
Wyoming	PacifiCorp	20000-405-ER-11	7/16/2012	V	9.80%
Maryland	Potomac Electric Power Co.	9286	7/20/2012	D	9.31%
Maryland	Delmarva Power & Light Co.	9285	7/20/2012	D	9.81%
Texas	Entergy Texas Inc.	39896	9/13/2012	V	9.80%
Illinois	Ameren Illinois	12-0001	9/19/2012	D	10.05%
Utah	PacifiCorp	11-035-200	9/19/2012	V	9.80%
District of Columbia	Potomac Electric Power Co.	1087	9/26/2012	D	9.50%
New Jersey	Atlantic City Electric Co.	ER-11080469	10/23/2012	D	9.75%
Wisconsin	Wisconsin Public Service Corp.	6690-UR-121	10/24/2012	V	10.30%
Wisconsin	Madison Gas and Electric Co.	3270-UR-118	11/9/2012	V	10.30%
Wisconsin	Wisconsin Electric Power Co.	05-UR-106	11/28/2012	V	10.40%
California	Liberty Utilities LLC	12-02-014	11/29/2012	V	9.88%
Delaware	Delmarva Power & Light Co.	11-528	11/29/2012	D	9.75%
Illinois	Ameren Illinois	12-0293	12/5/2012	D	9.71%
Pennsylvania	PPL Electric Utilities Corp.	R-2012-2290597	12/5/2012	D	10.40%
Missouri	Union Electric Co.	ER-2012-0166	12/12/2012	V	9.80%
Florida	Florida Power & Light Co.	120015-EI	12/13/2012	V	10.50%
Kansas	Kansas City Power & Light	12-KCPE-764-RTS	12/13/2012	V	9.50%
Wisconsin	Northern States Power Co.	4220-UR-118	12/14/2012	V	10.40%
Illinois	Commonwealth Edison Co.	12-0321	12/19/2012	D	9.71%
South Carolina	South Carolina Electric & Gas	2012-218-E	12/19/2012	V	10.25%
California	San Diego Gas & Electric Co.	12-04-016	12/20/2012	V	10.30%
California	Pacific Gas and Electric Co.	12-04-018	12/20/2012	V	10.40%
California	Southern California Edison Co.	12-04-015	12/20/2012	V	10.45%
Kentucky	Kentucky Utilities Co.	2012-00221	12/20/2012	V	10.25%
Kentucky	Louisville Gas & Electric Co.	2012-00222	12/20/2012	V	10.25%
Oregon	PacifiCorp	UE-246	12/20/2012	V	9.80%
Rhode Island	Narragansett Electric Co.	4323 F- 32 Sub- 470	12/20/2012	D	9.50%
North Carolina	Virginia Electric & Power Co.	E-22, Sub 479	12/21/2012	V	10.20%

Vertically

### Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2012 to Present

				Integrated	
			Decision	(V)/Distribution	Return on
State	Utility	Docket	Date	(D)	Equity
					(%)
					0.000/
Washington	Avista Corp.	UE-120436	12/26/2012	V	9.80%
Missouri	Kansas City Power & Light	ER-2012-0174	1/9/2013	V	9.70%
Missouri	KCP&L Greater Missouri Op Co	ER-2012-0175	1/9/2013	V	9.70%
Indiana	Indiana Michigan Power Co.	44075	2/13/2013	V	10.20%
Maryland	Baltimore Gas and Electric Co.	9299	2/22/2013	D	9.75%
Louisiana	Southwestern Electric Power Co	U-32220	2/27/2013	V	10.00%
New York	Niagara Mohawk Power Corp.	12-E-0201	3/14/2013	D	9.30%
Idaho	Avista Corp.	AVU-E-12-08	3/27/2013	V	9.80%
Ohio	Duke Energy Ohio Inc.	12-1682-EL-AIR	5/1/2013	D	9.84%
Michigan	Consumers Energy Co.	U-17087	5/15/2013	V	10.30%
North Carolina	Duke Energy Progress Inc.	E-2, Sub 1023	5/30/2013	V	10.20%
Hawaii	Maui Electric Company Ltd	2011-0092	5/31/2013	V	9.00%
Arizona	Tucson Electric Power Co.	E-01933A-12-0291	6/11/2013	V	10.00%
New Jersey	Atlantic City Electric Co.	ER-12121071	6/21/2013	D	9.75%
Washington	Puget Sound Energy Inc.	UE-130137	6/25/2013	V	9.80%
Maryland	Potomac Electric Power Co.	9311	7/12/2013	D	9.36%
Minnesota	Northern States Power Co.	E-002/GR-12-961	8/8/2013	V	9.83%
Connecticut	United Illuminating Co.	13-01-19	8/14/2013	D	9.15%
Florida	Tampa Electric Co.	130040-EI	9/11/2013	V	10.25%
South Carolina	Duke Energy Carolinas LLC	2013-59-E	9/11/2013	V	10.20%
North Carolina	Duke Energy Carolinas LLC	E-7, Sub 1026	9/24/2013	V	10.20%
Texas	Southwestern Electric Power Co	40443	10/3/2013	V	9.65%
Wisconsin	Wisconsin Public Service Corp.	6690-UR-122	11/6/2013	V	10.20%
Kansas	Westar Energy Inc.	13-WSEE-629-RTS	11/21/2013	V	10.00%
Virginia	Virginia Electric & Power Co.	PUE-2013-00020	11/26/2013	v	10.00%
Florida	Gulf Power Co.	130140-EI	12/3/2013	v	10.25%
Washington	PacifiCorp	UE-130043	12/4/2013	v	9.50%
Wisconsin	Northern States Power Co.	4220-UR-119	12/5/2013	v	10.20%
Illinois	Ameren Illinois	13-0301	12/9/2013	D	8.72%
Oregon	Portland General Electric Co.	UE-262	12/9/2013	V	9.75%
Maryland	Baltimore Gas and Electric Co.	9326	12/13/2013	D	9.75%
Louisiana	Entergy Gulf States LA LLC	U-32707	12/16/2013	V	9.95%
Louisiana	Entergy Coursiana LLC	U-32708	12/16/2013	V	9.95%
Nevada	Sierra Pacific Power Co.	13-06002	12/16/2013	V	10.12%
				V	9.50%
Arizona	UNS Electric Inc.	E-04204A-12-0504 36989	12/17/2013	v V	
Georgia	Georgia Power Co.		12/17/2013		10.95% 8.72%
Illinois	Commonwealth Edison Co.	13-0318	12/18/2013	D	
Oregon	PacifiCorp	UE-263	12/18/2013	V	9.80%
Michigan	Upper Peninsula Power Co. Consolidated Edison Co. of NY	U-17274	12/19/2013	V D	9.20%
New York		13-E-0030	2/20/2014		
North Dakota	Northern States Power Co.	PU-12-813	2/26/2014	V	9.75%
New Hampshire	Liberty Utilities Granite St	DE-13-063	3/17/2014	D	9.55% 9.40%
District of Columbia	Potomac Electric Power Co.	1103-2013-E	3/26/2014	D	
New Mexico	Southwestern Public Service Co	12-00350-UT	3/26/2014	V	9.96%
Delaware	Delmarva Power & Light Co.	13-115	4/2/2014	D	9.70%
Texas	Entergy Texas Inc.	41791	5/16/2014	V	9.80%
Massachusetts	Fitchburg Gas & Electric Light	13-90	5/30/2014	D	9.70%
Wisconsin	Wisconsin Power and Light Co	6680-UR-119	6/6/2014	V	10.40%
Maine	Emera Maine	2013-00443	6/30/2014	D	9.55%
Maryland	Potomac Electric Power Co.	9336	7/2/2014	D	9.62%

### Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2012 to Present

State	Utility	Docket	Decision Date	Vertically Integrated (V)/Distribution (D)	Return on Equity
					(%)
Louisiana	Entergy Louisiana LLC (New Orleans)	UD-13-01	7/10/2014	V	9.95%
New Jersey	Rockland Electric Company	ER-13111135	7/23/2014	D D	9.75%
Maine	Central Maine Power Co.	2013-00168	7/29/2014	D	9.45%
Wyoming	Cheyenne Light Fuel Power Co.	20003-132-ER-13	7/31/2014	V	9.90%
Arkansas	Entergy Arkansas Inc.	13-028-U <sup>1</sup>	8/15/2014	v	
New Jersey	Atlantic City Electric Co.	ER-14030245	8/20/2014		9.50% 9.75%
Vermont	Green Mountain Power Corp	8190, 8191	8/25/2014	D V	9.73%
Utah	PacifiCorp	13-035-184	8/29/2014	v	9.80%
Florida	Florida Public Utilities Co.	140025-EI	9/15/2014	v V	10.25%
Nevada	Nevada Power Co.	14-05004	10/9/2014	v V	9.80%
Illinois	MidAmerican Energy Co.	14-0366	11/6/2014	v V	9.56%
Wisconsin	Wisconsin Public Service Corp.	6690-UR-123	11/6/2014	v	10.20%
Wisconsin	Wisconsin Fuone Service Corp. Wisconsin Electric Power Co.	05-UR-107	11/14/2014	v	10.20%
Virginia	Appalachian Power Co.	PUE-2014-00026	11/26/2014	v	9.70%
Wisconsin	Madison Gas and Electric Co.	3270-UR-120	11/26/2014	v	10.20%
Oregon	Portland General Electric Co.	UE-283	12/4/2014	v	9.68%
Illinois	Commonwealth Edison Co.	14-0312	12/10/2014	Ď	9.25%
Illinois	Ameren Illinois	14-0317	12/10/2014	D	9.25%
Mississippi	Entergy Mississippi Inc.	2014-UN-0132	12/11/2014	V	10.07%
Wisconsin	Northern States Power Co.	4220-UR-120	12/12/2014	V	10.20%
Connecticut	Connecticut Light & Power Co.	14-05-06	12/17/2014	D	9.17%
Colorado	Black Hills Colorado Electric	14AL-0393E	12/18/2014	V	9.83%
Wyoming	PacifiCorp	20000-446-ER-14	1/23/2015	V	9.50%
Colorado	Public Service Co. of CO	14AL-0660E	2/24/2015	V	9.83%
New Jersey	Jersey Central Power & Light Co.	ER-12111052	3/18/2015	D	9.75%
Washington	PacifiCorp	UE-140762	3/25/2015	V	9.50%
Minnesota	Northern States Power Co.	E-002/GR-13-868	3/26/2015	V	9.72%
Michigan	Wisconsin Public Service Corp.	U-17669	4/23/2015	V	10.20%
Missouri	Union Electric Co.	ER-2014-0258	4/29/2015	V	9.53%
West Virginia	Appalachian Power Co.	14-1152-E-42-T	5/26/2015	V	9.75%
New York	Central Hudson Gas & Electric	14-E-0318	6/17/2015	D	9.00%
New York	Consolidated Edison Co. of NY	15-E-0050	6/17/2015	D	9.00%
Missouri	Kansas City Power & Light	ER-2014-0370	9/2/2015	V	9.50%
Kansas	Kansas City Power & Light	15-KCPE-116-RTS	9/10/2015	V	9.30%
New York	Orange & Rockland Utlts Inc.	14-E-0493	10/15/2015	D	9.00%

<sup>&</sup>lt;sup>1</sup> The Arkansas Public Service Commission originally approved a 9.3% ROE, but increased it to 9.5% on rehearing. See Order No. 35, Arkansas Docket 13-028-U.

Entire Period		
# of Decisions	135	
Average (All Utilities)		9.85%
Average (Distribution Only)		9.51%
Average (Vertically Integrated Only)		9.98%
Median		9.80%
Minimum		8.72%
Maximum		10.95%

### Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2012 to Present

State	Utility	Docket	Decision Date	Vertically Integrated (V)/Distribution (D)	Return on Equity
- State	Ounty	Docket	Dute	(D)	(%)
2012					
# of Decisions		5	1		
Average (All Utilities)					10.02%
Average (Distribution Only)					9.75%
Average (Distribution Only,	exc. IL FRP)				9.75%
Average (Vertically Integrat	ted Only)				10.10%
2013					
# of Decisions		3	8		
Average (All Utilities)					9.83%
Average (Distribution Only)					9.37%
Average (Distribution Only,	· ·				9.56%
Average (Vertically Integrat	ted Only)				9.97%
2014					
# of Decisions		3	3		
Average (All Utilities)					9.75%
Average (Distribution Only)					9.49%
Average (Distribution Only,	exc. IL FRP)				9.53%
Average (Vertically Integrat	ted Only)				9.92%
2015					
# of Decisions	• • •	1	3		
Average (All Utilities)					9.51%
Average (Distribution Only)					9.19%
Average (Vertically Integrate	ted Only)				9.65%

Source: SNL Financial LC, October 22, 2015